

NEW SPECIES OF ERIOPTERINE CRANE-FLIES
FROM THE UNITED STATES*(Tipulidæ, Diptera)*

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Ormosia bifidaria, new species.

Closest to *O. fumata* (Doane); antennæ dark throughout; thorax clear gray; gonapophyses of the male hypopygium slender, each with a deep apical notch.

Male.—Length, 4.5–4.8 mm.; wing, 5.5–5.8 mm.

Female.—Length, 6–6.3 mm.; wing, 6.8–7.3 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black throughout. Head light brownish gray.

Mesonotum gray without distinct stripes. Pleura clear blue-gray. Wings subhyaline or with a faint gray tinge; stigma brown; small indistinct clouds along the cord and outer end of cell 1st M_2 ; veins dark brown. Venation: Cell 1st M_2 closed; basal deflection of Cu_1 just beyond the fork of M ; 2nd *Anal* vein strongly sinuate.

Abdomen dark brown; hypopygium bright yellow. Male hypopygium with the pleurites stout. Outer pleural appendage broad, expanded outwardly, flattened, the outer margin concave, heavily chitinated and minutely denticulate. Inner pleural appendage a flattened yellowish lobe. Penis-guard at its apex split into two strongly divergent horns. Gonapophyses slender, straight, each with a deep V-shaped apical notch.

The female is generally similar to the male but is conspicuously larger; the ovipositor is bright reddish yellow, shiny.

Habitat.—Colorado.

Holotype, ♂, Platte Canyon, altitude 10,000 feet; August 21, 1915 (E. J. Osler).

Allotopotype, ♀.

Paratopotypes, 2 ♂'s, 6 ♀'s.

Type in the collection of the author.

O. bifidaria is closest to *O. fumata* (Doane) which differs in having the basal antennal segments pale, the coloration not clear gray, and in the very different structure of the gonapophyses of the male hypopygium.

Ormosia serridens, new species.

Closest to *O. meigenii* (O. S.); gonapophyses of the male hypopygium minutely serrate.

Male.—Length, 3.8–4 mm.; wing, 4.5–4.8 mm.

Similar to *O. meigenii* in most respects. Average size smaller; male hypopygium conspicuously different in structure. The inner pleural appendage has a long lateral bill-like point so the appendage appears somewhat like the head of a bird. Lateral gonapophyses broad, of nearly equal width throughout, the apex obliquely truncated and with about a dozen minute teeth in addition to the small apical point. Inner apophyses slender, slightly curved, the outer margin minutely serrulate, the teeth decreasing in size from the base outwardly, apical point small.

Habitat.—Maryland, Virginia.

Holotype, ♂, Great Falls, Virginia, April 20, 1916 (W. L. McAtee).

Paratopotype, ♂; *paratype*, ♂, Cabin John Bridge, Maryland, April 11, 1915 (R. C. Shannon), ♂, April 13, 1916 (W. L. McAtee).

Type in the United States Biological Survey collection.

Ormosia dentifera, new species.

Coloration gray; wings with a faint grayish tinge; cell 1st M_2 open, anal veins nearly divergent; gonapophyses of the male hypopygium produced into powerful curved horns.

Male.—Length about 3.8 mm.; wing, 4.3 mm.

Female.—Length about 3.8–4 mm.; wing, 4.6 mm.

Antennæ moderately elongated, the scape brown, the flagellar segments in the male elongate-oval, black, with a conspicuous white pubescence; in the female, the flagellar segments are oval. Head gray.

Pronotum brownish gray, the lateral margins dull yellow. Mesonotum gray without distinct stripes. Pleura gray. Halteres rather long, pale yellow, the knobs a little darker. Legs with the coxæ, trochanters, and bases of the femora dull yellow, remainder of the legs dark brown. Wings with a faint grayish tinge, the stigma darker, brownish; veins brown.

Venation: Sc_1 ending just beyond r ; outer deflection of M_3 lacking; basal deflection of Cu_1 just before the fork of M ; 2nd Anal vein sinuous on its terminal half, at its extreme apex bent slightly toward the first anal vein, the first anal cell widest at the margin.

Abdomen dark brown, the genital segments brighter. Male hypopygium with the pleural appendages small, subequal in shape and size, narrowed to the obtuse apex, the outermost pale with a few small apical setæ, the inner appendage blackened. Gonapophyses powerfully developed, in the form of a black, chitinized, curved horn on either side, the horn of the right side with a single strong tooth at about midlength, the left horn with a broad tooth that is minutely bifid at its tip. This may vary in different specimens.

Habitat.—Maine.

Holotype, ♂, Orono, Penobscot County, June 5, 1913 (C. P. Alexander).

Allotopotype, ♀, June 8, 1913.

Paratopotypes, 3 ♀'s, June 5–10, 1913.

O. dentifera has no close relative in eastern North America. Superficially it resembles *O. deviata* Dtz. but is readily told by the coloration and the very distinct male genitalia.

***Ormosia adirondacensis*, new species.**

Close to *O. bilineata* Dtz.; coloration reddish gray, the mid-dorsal area slightly darker; wings faintly grayish; outer deflection of M_3 lacking, anal veins divergent.

Male.—Length, 4–4.2 mm.; wing, 4.7–5 mm.

Rostrum and palpi dark brown. Antennæ moderately elongated, brown, the flagellar segments with conspicuous, white, outspreading hairs. Head dark.

Pronotum brown, the posterior and lateral margins conspicuously light yellow. Mesonotal præscutum reddish gray, the mid-dorsal area darker brown, some specimens showing indistinct shorter lateral stripes of the same color. Pleura brownish yellow, gray pruinose. Halteres yellow. Legs with the coxæ brownish yellow; trochanters yellow; remainder of the legs light brown. Wings with a faint grayish tinge, the

stigmal region conspicuously darker; veins stout. Venation: r inserted on R_2 at about its own length beyond the fork of R_2+3 ; petiole of cell M_2 subequal to or about one-half longer than the basal deflection of Cu_1 , which is inserted immediately before the fork of M ; anal veins divergent, the second anal vein just before its tip bent slightly toward the first. The holotype has an adventitious crossvein in cell R_3 of the left wing.

Abdomen dark brown, the hypopygium brighter colored, especially beneath. Male hypopygium with the pleurites rather stout. Outer pleural appendage a small, flattened, black lobe whose outer face is minutely roughened, at the base on the inner margin with an obtuse lobe; inner pleural appendage a little longer, yellowish, the apex obtuse, before the tip with a small, slender, cylindrical projection. Penis-guard elongate, slightly sinuous, projecting conspicuously beyond the genital chamber. Gonapophyses slender, acute, curved slightly proximad. Eighth sternite with a conspicuous flattened median lobe as in the *meigenii* group.

Habitat.—New York (Fulton County, Southern Adirondack Mountains).

Holotype, ♂, Simmons Woods, Gloversville, altitude 900 feet, June 22, 1916 (C. P. Alexander).

Paratypes, Woodworths Lake, ♂, June 17, 1916; ♂, July 7, 1916; Mountain Lake, 3 ♂'s, in balsam, June 17, 1914.

Type in the collection of the author.

O. adirondacensis is closest to *O. bilineata* Dtz. but is easily separated by the coloration, the course of the second anal vein and, especially, the structure of the male hypopygium.

***Ormosia stylifer*, new species.**

General coloration light yellow, the mesonotal praescutum without darker markings; wings nearly hyaline, the costal cells yellowish, the stigma indistinct; outer deflection of M_3 lacking, cell 1st M_2 being open; anal veins divergent; gonapophyses of the male hypopygium elongate, stylet-like; eighth sternite greatly produced, deeply notched medially.

Male.—Length about 3.3–3.5 mm.; wing, 4.7–5.2 mm.

Rostrum brownish yellow; palpi dark brown. Antennæ with the first scapal segment yellowish, the remainder of the antennæ dark brown; the second scapal segment appears flattened, disk-like, in the material at hand. Head light yellow, the vertex brownish medially.

Mesonotal praescutum light yellow, the usual interspaces represented by broad, very faint and indistinct, reddish lines that broaden out on the sides of the sclerite. Pleura yellowish. Halteres pale with dark brown knobs. Legs with the coxæ and trochanters yellowish; femora yellowish with the tips dark brown, these broadest on the fore legs, narrowest on the hind legs; tibiæ and tarsi brown. Wings almost hyaline, the costal cells more yellowish; stigma indistinct; veins brown. Venation almost as in *O. deviata* Dtz., the *r-m* crossvein longer and more arcuated.

Abdominal tergites yellow, the basal tergites indistinctly brownish medially, the sternites more yellowish. Male hypopygium reddish, similar in structure to *O. deviata* Dtz. of the eastern United States, but the apices of the lobes of the eighth sternite are more pointed, and the outer pleural appendage distinctly narrowed to the somewhat pointed apex. The gonapophyses are produced beyond the genital chamber as slender, stylet-like rods that emerge just beneath the ninth tergite.

The female is very similar to the male but larger.

Habitat—Oregon.

Holotype, ♂, Forest Grove, Washington County, June 3, 1918 (F. R. Cole).

Allotopotype, ♀.

Paratopotypes, 2 ♂'s.

Type in the collection of the author.

O. stylifer is closest to *O. deviata* Dtz. with which it agrees in the structure of the eighth sternite and gonapophyses of the male hypopygium. *O. deviata* is, in all respects, a much darker colored fly.

***Cladura oregona*, new species.**

Coloration light yellow, the mesonotum opaque; tips of the

femora and tibiæ scarcely darkened; wings grayish, more yellowish basally and along the costal region.

Male.—Length about 5.5 mm.; wing, 7.4 mm.

Rostrum light yellow with a sparse white bloom; palpi yellow basally, the two terminal segments and the apical half of the second brown. Antennæ with the basal segments yellowish, the last twelve segments brown; there are twelve elongate flagellar segments beyond the small fusion segment. Head dark gray.

Thorax opaque, yellow, without markings. Pleura a little more whitish. Halteres light brown, the knobs a little darker. Legs with the coxæ and trochanters light yellow; femora and tibiæ a little more brownish, the tips of the former very slightly darkened; tarsi dark brown except the basal half of the metatarsi which are more yellowish. Wings pale gray, unmarked, the base of the wings, the costal region, and along vein *Cu* more yellowish; stigma indistinct; veins brown. Venation: Almost as in *C. flavoferruginea*; *Rs* a little longer and not so arcuated at its origin; basal deflection of $R_4 +_5$ very reduced; *r-m* long, angular; cell 1st M_2 smaller; cell M_1 deeper.

Abdomen light yellow, the mid-tergal region brown; eighth and ninth segments darkened to form a subterminal ring. Male hypopygium as in *C. flavoferruginea*, the pleural appendages long and slender, a little enlarged and curved at their apices.

Habitat.—Oregon.

Holotype, ♂, Forest Grove, Washington County, September 30, 1918 (F. R. Cole).

Type in the collection of the author.

C. oregona is a well-defined species that differs conspicuously from *C. flavoferruginea* O. S., its closest relative, by the uniformly gray wings and structure of the male hypopygium. In general appearance it is very like *Crypteria americana* Alex., likewise from Oregon, but is readily told by the generic characters.